ELECTRONIC INNOVATIONS IN ACTION

TUBES

PRELIMINARY

—PRODUCT INFORMATION—

BEAM PENTODE

8950

LINEAR AMPLIFIER - AND -RF PO APPLICATIONS

■ 400 MA DC CATHODE CURRENT ■ 33 WATTS PLATE DISSIPATION ■ 1.4 AMP PEAK CATHODE CURRENT

The 8950 is a compactron beam power pentode primarily designed for RF Power Output applications. Features of the 8950 are dual cathode and grid connections for lower lead inductance, and a 13.0 volt heater. The 8950 is suitable for mobile and marine equipment applications having 12 volt battery supplies.

GENERAL

ELECTRICAL

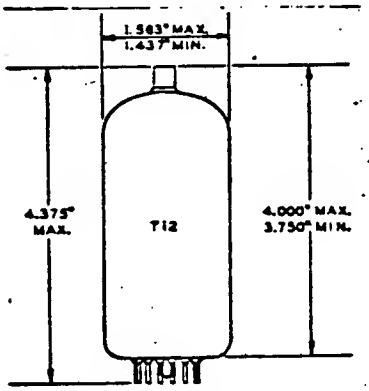
Cathode Coated Unipotential

Heater Characteristics and Ratings
Heater Voltage, AC or DC . . . . . 13.0 Volts
Heater Current . . . . . 1.1 Amperes
Direct Interelectrode Capacitances, approximate
Grid No. 1 to Plate: (g1 to p) . . . . 0.6 pf
Input: . . . . . 36 pf
Output: . . . . . 18 pf

MECHANICAL

Operating Position Any
Envelope T-12
Top Cap C1-1, Small
Base E12-74
Outline Drawing
Maximum Diameter 1.563''
Maximum Over all Length 4.375''
Maximum Seated Height 4.000''

PHYSICAL DIMENSIONS

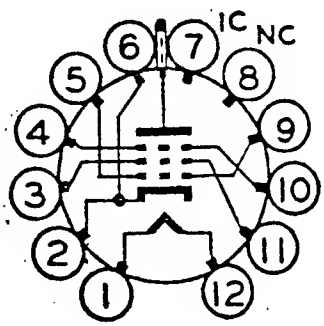


EIA 12-90

TERMINAL CONNECTIONS

Pin 1 – Heater
Pin 2 – Cathode
Pin 3 – Grid 2
Pin 4 – Grid 3 (Beam Plate)
Pin 5 – Grid 1
Pin 6 – Cathode
Pin 7 – Internal Connection (Do not use)
Pin 8 – No Connection
Pin 9 – Grid 1
Pin 10 – Grid 3 (Beam Plate)
Pin 11 – Grid 2
Pin 12 – Heater
Cap – Plate

BASING DIAGRAM



MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

DC Plate Voltage	800	Volts
Peak Positive Pulse Plate Voltage	6500	Volts
Screen Voltage	250	Volts
Peak Negative Grid-Number 1 Voltage	250	Volts
Plate Dissipation	33	Watts
Screen Dissipation	5	Watts
DC Cathode Current	400	Milliamperes
Peak Cathode Current	1400	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance ▲		
With Fixed Bias	0.1	Megohm
With Cathode Bias	Not Recommended	
Bulb Temperature at Hottest Point ♦	240	°C

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	175	Volts
Beam Plates-Connected to Cathode at Socket		
Screen Voltage	110	Volts
Grid Number 1 Voltage	-21	Volts
Plate Resistance, approximate	□	Ohms
Transconductance	16000	Micromhos
Plate Current	120	Milliamperes
Screen Current	2.0	Milliamperes
Grid-Number 1 Voltage, approximate		
Ib = 1.0 Milliamperes	-42	Volts
Triode Amplification Factor	□	

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

● Heater current of a bogey tube at Ef= 13.0 volts.

▲ The type of input coupling network used should not introduce too much resistance in the grid-number 1 circuit. Transformer or impedance coupling devices are recommended.

♦ Measured with an infrared thermometer, Ircon Model 700 BC or equivalent.

□ To be determined.